

III. Case of Sudden Death from the Introduction of an Aspirator Needle into a Hepatic Abscess. By J. C. REEVE, M. D. (Dayton, Ohio). The patient was enfeebled by an illness of six weeks duration and, a diagnosis of hepatic abscess having been made, an aspirator needle was thrust into the liver; the patient immediately went into collapse and, within a minute and a half from the puncture of the needle, life was extinct. Autopsy revealed no lesion other than the abscess of the liver, and the author thinks death was evidently due to inhibition of the heart's action, the impulse being transmitted from the puncture, and is convinced that (1) under full anæsthesia this man would not have died at the time and in the manner he did; (2) under partial anæsthesia, death would have occurred as it did, and would have contributed to swell the list of casualties from anæsthetics; the mode of death is entirely similar to those which have occurred from the extraction of teeth under chloroform, when the movements of the patient, etc. showed that anæsthesia was not profound.—*Med. News*, January 1, 1887.

OPERATIVE SURGERY.

I. Improved Procedure for Inter-Scapulo-Thoracic Amputation of the Upper Extremity. By PAUL BERGER (Paris). The complete ablation of the upper extremity with the scapula has recently been performed a considerable number of times; the author has collected forty-eight cases with 80 % of success. The procedure which he proposes is the result not only of cadaveric studies, but also of an analysis of all known cases; it is a synthesis of the best methods that have been proposed. It is an amputation by two flaps, one antero-inferior or pectoro-axillary and the other postero-superior or cervico-scapular, in two successive stages which are executed, the former in two steps, the latter in three.

The object of the first stage is preliminary hæmostasis; it begins with section of the clavicle followed by resection of the middle part of that bone (first step) and ends with isolation and division between two ligatures of the subclavian vessels (second step).

The second stage begins with the formation and deep dissection of

the antero-inferior or pectoro-axillary flap, of which the extremities of the pectoralis major and minor and the latissimus dorsi muscles form a part, a dissection which permits the section of the brachial plexus and extends to the subscapular insertions of the serratus magnus (first step); then follows the incision and elevation of the supero-posterior flap, lined by the trapezius alone which is continued to the superior and internal limits of the scapula (second step); then follows the section of the insertions of the serratus magnus, the omo-hyoideus, the levator anguli scapulæ and the rhomboideus muscles at the superior and internal borders of the scapula (third step).

The incision designed for the exposure, isolation, section and resection of the clavicle, and for the application of the ligatures should be about 10 cm. long; it should end without immediately behind the acromio-clavicular articulation, on the depressible apex of the angle formed by the posterior border of the clavicle and the crest of the scapula; it should begin within at two finger's breadths from the sterno-clavicular articulation of the clavicle, on the clavicle, in front of rather than above it; the incision is straight between these two points.

To trace the posterior flap, it will be sufficient to prolong the incision behind the scapula, by the shortest way toward the posterior face of the scapular angle where it will meet the antero-inferior flap. The outline of the latter begins at the level of the scapular incision, is directed forward and downward to the tip of the coracoid process, curves at the union of the pectoralis major with the arm, traverses the internal face of the root of the extremity, thence to the tendon of the latissimus dorsi, curves, and descends behind, following the visible and tangible groove, separating the axillary border of the scapula from the muscular mass of the latissimus dorsi and teres major, to stop behind the inferior scapular angle.

The first incision for section of the clavicle should not go down to the bone at once, for there may be a communicating vein between the cephalic and the internal jugular, which might be divided. The resection of the middle of the clavicle should be subperiosteal, after which the exposed portion of the subclavius should be removed; after this nothing is left, the fascia being so thin as to be neither felt nor

seen. The index finger, passing toward the neck in front of the nerves, easily strikes the sharp edge of the omo-clavicular aponeurosis, where are the subclavian vessels, to which a double ligature *en masse*, not including the omo-hyoid muscle, should be applied, and the vessels divided. The artery should then be sought for and ligatured by itself, then the veins, and the vessels should be cut between the ligatures, just below the clavicle.

This done, the anterior flap should be marked out and dissected up; the same should be done for the posterior. Then the operator should seize the root of the limb firmly and draw upon it as if to tear it away; this disengages the superior and spinal borders which are quickly released by a rapid section of the double layer of muscles attached there. The operator then looks in the neck, without the brachial plexus and near the section of the levator anguli scapulæ, for the point where the posterior scapular artery was divided, seizes and ligatures it.—*French Congress of Surgery, Revue de Chirurgie*, Nov., 1886.

NERVOUS AND VASCULAR SYSTEM.

I. Distance-Suture of Tendons and Nerves and Some Applications of Animal Grafts. By GEORGE ASSAKY (Lille). This suture consists in connecting by long suture threads the two ends of parts, the apposition of which is unobtainable. The first suture of this kind was made by Benjamin Anger for the tendon of the extensor minimi digiti; the two ends were 9 cm. apart, but traction reduced the distance to 2 cm., and he connected them by a silver suture with a satisfactory result. Gluck substituted catgut in two cases with satisfaction. With M. Fargin, the author has applied distance sutures; the tendons regenerated along the threads are always stronger than those spontaneously regenerated; the number of tendinous fasciculi is greater. This operation is clearly indicated whenever apposition is impossible; it is more particularly applicable to tendons without a sheath.

They also made experiments upon the application of distance sutures to nerves. They interposed between the two ends of the divided nerves fragments of tendon, muscle and spinal cord. The